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Background

Since bioethics was identified in the Subject Benchmark statements for Bioscience students (QAA, 2002), course teams have attempted to incorporate it into undergraduate programmes (Wilmott, 2004). However, questions remain about how it should be taught and who should teach it (Downie & Clarkburn, 2005). Bioethics encompasses both philosophy and science, and requires skills in evaluating and developing arguments, communication and collaboration. All first year students in the School of Biomedical Sciences at the University of Ulster are provided with an introduction to bioethics. In the short introductory class it was important to capture some of the ethos of why it is important to study bioethics, without overwhelming students with philosophical frameworks. The approach taken was to start with a bioethical question in the public domain, support students as they collate and evaluate the evidence, and conclude by identifying the stakeholders and the key ethical issues.

Activity

Prior to the class, an email was sent inviting the students to bring a mobile device to class; 44% brought smart phones, 33% laptops and 22% tablets. At the start of the class, the students were presented with a question: "Do you think UK media is biased against GM crops?" Two spreadsheets had been prepared in Google Docs, one for the evidence in favour of GM crops (PRO-GMO) and one for articles which were negative towards GM (NO-GMO). The spreadsheets were formatted to support students in curating and evaluating the evidence they collected. The columns included titles and prompts to identify the source and article type (e.g. online site for traditional newspapers or news broadcasters, social media, website, blog),

to rank the evidence provided and to comment on how well balanced and/or informative they considered the article.

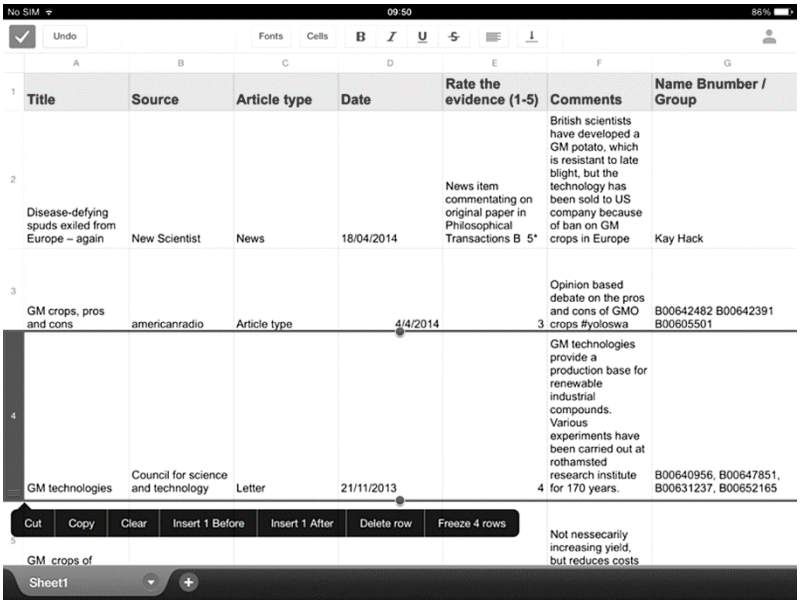

Figure 1: Google Docs Spreadsheet to capture evidence from UK media that supports the growth of GM crops.

Evidence, findings, analysis or reflection

Observation of the classroom indicated that the majority of the students were enthusiastically involved in the activity. A small number of individuals and groups that appeared unsure of the task were quickly identified and support provided. The students were allowed to form their own groups, and they quickly assigned roles, with those with a laptop taking responsibility for recording the information, whilst those with other devices searched and scoped the information. Whilst everyone had a device and there was Wi-Fi available in the classroom, those with phones with small screens were at a disadvantage. The use of the Google Docs spreadsheet was a familiar and accessible environment. Students were asked to tag their contributions with their student identification number, and it was clear that small groups of 2-3 students were much more productive than larger groups.

Analysis of the data indicated that 90% of the enrolled cohort made a contribution to one of the spreadsheets, 75 students contributed 48 articles to the 'PRO-GMO' spreadsheet, and 123 students contributed 78 articles to the 'NO-GMO' spreadsheet. Approximately 38% of the articles were from the online presence of traditional media (newspapers and broadcasters), with 48% from websites. Only 5% of the articles were identified via social media (Twitter and Facebook). Less than 12% of the returned articles did not meet the criteria of the question, because they were not aimed at a UK audience (4.5%) or because they were a peer-reviewed scientific paper, i.e. not part of the 'mainstream' media as requested (7.5%). Articles that did not meet the question criteria were posted early on in the class, once the message that the articles should be from mainstream media was reinforced, compliance with the question criteria improved. The opportunity to 'tweet' progress throughout the task, contributed to student engagement and interaction within the large classroom.

Figure 2: Feedback at the end of the class via Twitter

The task was supported with Twitter, which encouraged interaction and promoted some competition between the groups as well the opportunity to provide real time feedback, from peers and the tutor. Whilst the use of Twitter was voluntary, it did provide an opportunity for students to ask questions and give their opinions; the type of interaction that can be difficult to initiate with large groups of first year students (Tyma, 2011).

Discussion and Conclusion

This activity was designed to raise students' awareness of bioethics and the importance of giving consideration to alternative, evidence-based arguments to resolve difficult ethical dilemmas. However, the task also provided students with information and skills on:

- **Developing an effective Google search strategy** - Whilst students typically consider themselves 'expert' at using search engines such as Google, the evidence indicates that they are not using its features effectively. This task supported students in developing

advanced search strategies that provided distinct results which met the question criteria.

- **Evaluating sources** - The structure of the spreadsheet supported students as they identified and evaluated credible sources of information in the mainstream media
- **Evaluating communication strategies** - The task was focussed on exploring the messages in the mainstream media on an important bioethical issue, which encouraged students to consider how information from scientific research (peer reviewed journals) is communicated to the general public.
- **Using social media** - The task raised students' awareness of how social media can be used to disseminate scientific information or misinformation.
- **Raising awareness of digital identity** - The use of Twitter and Tweet Beam to broadcast tweets to the class, promoted awareness of the risks of 'over-honesty' in the public domain.

This class will be run again, with a couple of slight modifications to the activity. The group size will be limited to a maximum size of three and students will be encouraged to follow up on the activity to draw out key ethical principles, identify the stakeholders, and the risks and benefits of the technology. The activity will continue to be supported with Twitter. Whilst it is recognised that this does exclude non-Twitter users, this was outweighed by the benefits of receiving authentic real-time feedback and engagement with the class. The approach, whilst applied to bioethics, could be used in a wide range of subject domains.

References

Downie, R., & Clarkeburn, H. (2005). Approaches to the teaching of bioethics and professional ethics in undergraduate courses. *Bioscience Education e-journal*, 5(2). Online at: http://www.bioscience.heacademy.ac.uk/journal/vol5/Beej-5-2.aspx

Tyma, A. (2011). Connecting with what is out there! : Using twitter in the large lecture. *Communication Teacher*, *25*(3), 175-181.

Willmott, C. J., Bond, A. N., Bryant, J. A., Maw, S. J., Sears, H. J., & Wilson, J. M. (2004). Teaching ethics to bioscience students: a survey of undergraduate provision. *Bioscience Education e-journal*, 3(9). Online at: www.bioscience.heacademy.ac.uk/journal/vol3/Beej-3-9.aspx

Quality Assurance Agency (2007). Subject benchmarks statement biosciences. Online at: http://www.qaa.ac.uk/

It appears in:

Middleton, A., ed. (2015). Smart learning: Teaching and learning with smartphones and tablets in post compulsory education. Media-Enhanced Learning Special Interest Group and Sheffield Hallam University.

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